

be permanent. The only disadvantage stated, is the time occupied in its application. The worst cases of urethral strictures are undoubtedly met with in hospital practice, but very often in the best regulated establishments, any apparatus necessitating the use of a battery frequently proves vexatious and disappointing. Whether this plan of treatment will ever become general, or supercede more readily applied methods, in the hands of busy practitioners, is a matter of doubt. Moreover, the permanency of the cure in successful cases must be decided by time.—*Med. Press and Circular*.

T. F. CHAVASSE (Birmingham).

**III. Mixed Gonorrheal Infection.** By M. BUMM (Wurzburg)  
M. Bumm in a communication to the Medical Society of Munich, discusses a theory under the name of mixed infection, which he describes as the penetration into the organism of several species of bacteria. For example, a tuberculous patient can be attacked with erysipelas; a lying-in woman suffering from gonorrhea, may become the subject of a septic infection. Such cases as these, however, which result from mere chance infection, do not present any particular features of interest. But there is another variety of mixed infection in which there exists some relation between the different germs, in the sense that the one precedes the other and prepares the soil for fructification of the latter. These forms of mixed infection are characterized by being constantly associated with certain definite microbes. Taking pneumonia as an instance, under the influence of the bacteria of pneumonia the pulmonary alveoli lose their epithelium and throw off an exudation which serves as a medium for the development of the tubercle bacillus or pyogenic germs, and again pneumonia may be followed by phthisis or purulent infiltration of the liver; the specific microbe of gonorrhœa, the gonococcus of Neisser, can also modify the mucous membrane of the genito-urinary tract chiefly in women, in such manner as to render easy the invasion of certain of the microbes. The proof of this is to be found in the cases of gonorrhœal infection of the vulvo-vaginal glands. When the infection of the glands remains purely gonorrhœal the acute purulent stage is succeeded by a chronic stage

which may last for some months ; the swelling gradually subsides and subsequently atrophy and partial sclerosis of the gland follow. These features, however, assume quite another aspect when the gonorrhœal attack is complicated by an invasion of pyogenic microbes. The gland, for example, soon becomes enlarged and tender, and suppuration follows. In the abscess and cellular tissue surrounding it there are no gonococci to be found ; the pus only contains the pyogenic staphylococcus which has exterminated the gonococcus of Neisser. Another kind of mixed gonorrhœal infection is met with in the consecutive invasion into the vulvo vaginal gland of non-pathogenic germs which increase and multiply upon the mucous membrane of the vulva. They make their way into the gland and cause decomposition of its contents. In the place of Bartholin's gland, cysts are found, full of serous fluid in which rod-shaped microbes can be detected. This cystic disease is distinguished from acute suppuration by the absence of pain and symptoms of suppuration. The cystitis which accompanies gonorrhœa, is again, a variety of mixed infection. Bumm does not admit the existence of a gonorrhœal cystitis properly so-called, which is caused by the penetration of the gonococci into the vesical mucous membrane. The stratified epithelium of the bladder is impenetrable to the gonococcus. The cystitis is due according to the author to another species of microbe resembling the gonococcus of Neisser, but distinguishable from it, by taking a different staining. It would seem that the gonococcus cannot penetrate into the deeper tissues, and excite inflammation. The superficial layers of the mucous membrane are its exclusive domain. But how can para- and parametritis due to gonorrhœa be explained except upon the hypothesis of a mixed infection ? In two cases of purulent parametritis the author found only pyogenic microbes and not gonococci, in the purulent discharge. Suppurative parametritis following gonorrhœa is analogous to a gonorrhœal bubo which has been caused by pyogenic microbes. The question as to the cause of cases of non-purulent parametritis is a difficult one to decide, for in these, examination of the exudation, reveals the absence of all micro-organisms. Perhaps the inflammatory symptoms are due to absorption of irritative substances, purely chemical,

elaborated by the mucous membrane which is the seat of gonorrhœa. The author states, further that whilst puerperal pelvic cellulitis with suppuration, when communicating with the cavity of the peritoneum causes general peritonitis, because the pus contains pyogenic staphylococci, the pus of a gonorrhœa which escapes into the same cavity from the Fallopian tubes only produces a local inflammation. Lastly, some clinical observations seem to show that in the etiology of localized tuberculosis of the genital organs, gonorrhœal infection plays a certain role, and gonorrhœal rheumatism which has been attributed to the gonococcus, should in the author's opinion be regarded as the result of mixed infection, inasmuch as pyogenic microbes have been detected in the affected joints.—*Le Bulletin Medical*, Dec. 25, 1887.

H. PERCY DUNN (London).

#### GENERAL SURGERY.

**I. Peat-Moss as a Dressing.** By Dr. N. N. JAKIMOVITCH (St. Petersburg, Russia).—The author has subjected to a macroscopical, microscopical and bacteriological examination a specimen of commercial Russian peat-moss. The specimen represented a fairly firm, but extremely light and voluminous mass of a light brown color. It proved to consist mainly of tiny stems of several Russian species of the *sphagnum*. Besides there were found many foreign detritus-like admixtures, such as minute fragments of shrubs, disintegrated roots, broken leaflets of various plants, etc. Under the microscope there were seen, besides the *sphagnum*'s leaflets and branches, various vegetable fibres of an undeterminable origin, numberless big spores of mould-fungi, and microbes of varying kind and size. A series of bacteriological experiments, with due sterilizing precautions, showed that this would-be "aseptic" dressing material contained masses of mould fungi of several sorts, including the *penicillium glaucum*, and at least three different species of large and small micrococci, one of which formed point-like slightly opalescent, the other somewhat larger, greyish white, colonies on meat peptone jelly. Their pure cultures, grown on agar-agar and jelly gave nail-like colonies with a white smooth head; all of them liquefied gelatine. To determine the hygroscopic or